

Replacing an IOMF 2 ServerNet PIC

The following instructions describe how to remove and install a ServerNet plug-in card (PIC) on an IOMF 2 customer-replaceable unit (CRU) on a NonStop S-series server:

- 1 [Gather the proper tools](#) you will need to remove and install the PIC.
- 2 When handling the units, follow appropriate ESD procedures and standard operating practices (See [ESD Guidelines](#) and [standard operating practices](#)).
- 3 Remove the IOMF 2 CRU from the enclosure using the Guided Replacement Procedure. See [Guided Procedures](#) for more information.




Caution: When disconnecting a serial-copper cable, completely depress the locking latch on the cable connector until the latch is flush with the connector before unseating the connector. Failure to do so can damage the retention tabs on the PIC connector. Damaged retention tabs create sliding resistance that makes it difficult to reinstall a cable connector, and the cable connector can be pulled back to a new retained position where the connector is not fully engaged. If the retention tabs are damaged, flexing the cable can cause intermittent failures. If the locking latch is completely depressed and the cable does not disengage easily, do not force the cable. If the connector is damaged, the PIC must be replaced.

See [Instructions for Unplugging a Serial Copper Cable](#) and [Examples of Good and Damaged Retention Tabs](#).

- 4 Place the IOMF 2 CRU on a grounded antistatic mat. The PIC is mounted on the IOMF 2 board with two T-10 Torx screws and a nylon standoff that has an expandable fastener on the end. A hole in the PIC is pressed onto the fastener. The fastener contracts and then expands to lock the PIC into position. See [IOMF 2 ServerNet PIC Mounting Hardware](#).
- 5 Remove the two T-10 Torx screws. Using needlenose pliers, squeeze both sides of the protruding fastener to narrow it and then unplug the PIC.
- 6 Inspect the PIC connectors on both the IOMF 2 CRU and the PIC that is being installed. If any damage is found, replace the affected PIC or IOMF 2 CRU.

- 7 Install the PIC on the IOMF 2 board. The PIC is mounted face down. Carefully orient the PIC, align the PIC's connector with the connector on the IOMF 2 board, align the hole in the PIC with the nylon standoff, and press on the PIC over the connector to seat the PIC. Make sure that both the connector and the standoff fastener are secure and fully engaged. Reinstall the 2 Torx T-10 screws and do not over tighten the screws. See [IOMF 2 ServerNet PIC Mounting Hardware](#).
- 8 Reinstall the IOMF 2 CRU in the enclosure using the the Guided Replacement Procedure. See Avoiding Connector and Backplane Damage During CRU/FRU Replacement.
- 9 Remove your ESD wriststrap and disconnect the ground clip.

 **Note:** If you are replacing a PIC because of failure symptoms, then before replacing the PIC, first check that the PIC cables are securely connected. Poorly connected cables can cause many PIC failure symptoms.


For IOMF 2 physical descriptions, see:

- For G06.20 and later: NonStop S-Series Planning and Configuration Guide
- For G06.17 through G06.19: NonStop S-Series Hardware Support Guide
- For G06.16 and earlier: Himalaya S-Series Hardware Support Guide

Gathering the Proper Tools to Assist With CRU and FRU Replacement

You will need some or all of the following tools to replace a CRU or a FRU:

Tool	Used to...
Electrostatic discharge (ESD) wriststrap with grounding clip	Protect the CRU or FRU from damage caused by electrostatic discharge.
Antistatic mat (recommended)	Provide a static-free environment for removal and installation of a CRU or FRU.
Flashlight	Check the connectors for bent or broken pins.
Phillips screwdriver	Loosen the captive thumbscrews on a disk drive CRU.

 **Note:** An ESD protection kit can be purchased from HP using the following order number and part number:

Order Number: ESD-kit

Part Number: T99247-A00

ESD Guidelines



Figure: [Working in an ESD-Protected Environment](#)

Observe the following electrostatic discharge (ESD) guidelines whenever servicing electronic components:

- Obtain an ESD protection kit and follow the directions that come with the kit. You can purchase an ESD kit from HP (T99247-A00) or from a local electronics store. Ensure that your ESD wriststrap has a built-in series resistor and that the kit includes an antistatic table mat.
- Before you unpack a replacement CRU or FRU, place the CRU or FRU package on the antistatic table mat and attach the grounding clip on your wriststrap to the mat.
- When you unpack the CRU or FRU, do not cut into the ESD protective bag surrounding the CRU or FRU. The protective bag protects the CRU or FRU and can be reused for storing the CRU or FRU that has been replaced.
- Before you move the CRU or FRU from the antistatic table mat, attach the grounding clip from your ESD wriststrap to any unpainted metal surface on the CRU or FRU frame.
- Before you bring a CRU or FRU in contact with a system enclosure, attach the grounding clip on your ESD wriststrap to any unpainted metal surface on the enclosure frame.
- When you remove a CRU or FRU from a system enclosure, first pull the CRU or FRU partway out of the slot and then attach the grounding clip on your ESD wriststrap to any unpainted metal surface on the CRU or FRU frame.
- Store CRUs or FRUs that require ESD protection in ESD protective bags.
- The figure [Working in an ESD-Protected Environment](#) illustrates how to use an ESD kit when servicing CRUs or FRUs.

i Note: An ESD protection kit can be purchased from HP using the following order number and part number:

Order Number: ESD-kit

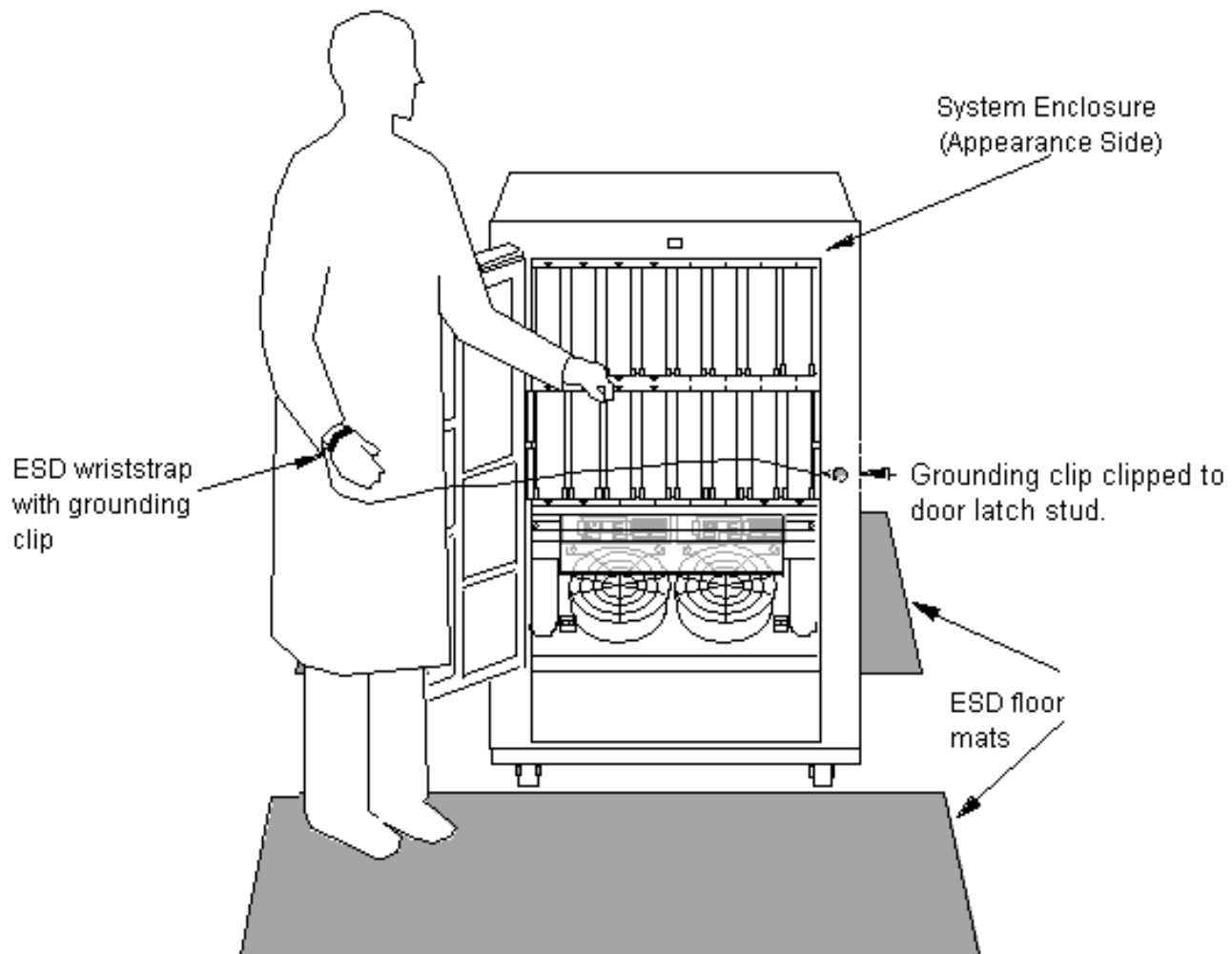
Part Number: T99247-A00

Related Topic

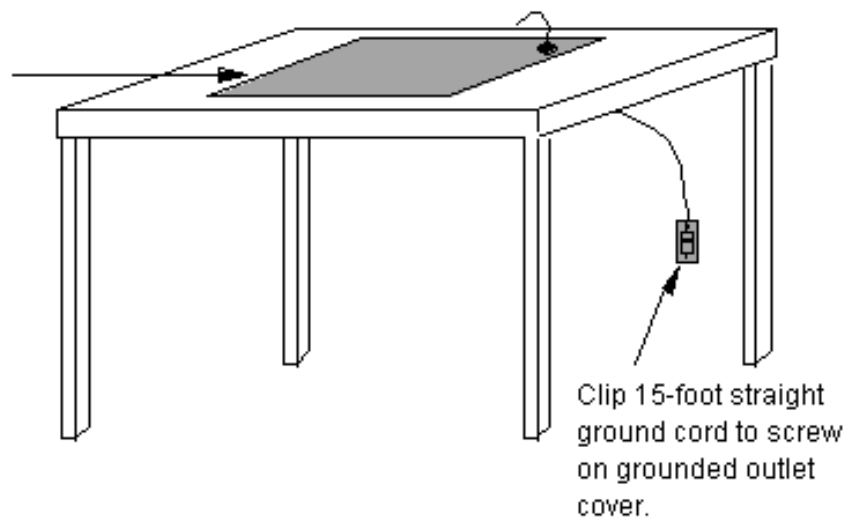
[Standard Operating Practices](#)

Figure: Working in an ESD-Protected Environment

This figure illustrates how to use an ESD kit when servicing customer-replaceable units (CRUs) and field-replaceable units (FRUs).



ESD antistatic table mat.
Mat should be connected
to a soft ground (1 megohm min.
to 10 megohm max.)



Standard Operating Practices



Caution. Replace only one CRU or FRU at a time. Attempting to replace more than one hardware component at a time might cause serious system outages, processor halts, and connectivity problems.

Whenever you replace a CRU or a FRU, use the following standard operating practices to minimize any potential damage to the equipment:

- Complete HP training courses on system support for NonStop S-series servers.
- Inspect the replacement CRU or FRU for any physical damage before installing it. Check the connectors on the CRU, FRU, or backplane for bent or broken pins and for any other obvious damage. If there is damage to the CRU or FRU, you need to order another one.
- Remove all jewelry and metal accessories, such as rings, watches, and necklaces, before working with the equipment. These items can damage electrical equipment or result in personal injury.
- Restrain any dangling items that can get caught in electromechanical equipment, such as long hair and sleeves, before working with the equipment.
- Follow the [ESD Guidelines](#) for working in an electrostatic discharge (ESD)-protected environment and for handling CRUs and FRUs.
- Avoid permanent damage to components from overheating by observing the time limits for an enclosure door to be open with only one fan running.

The following table indicates the amount of time that components in a fully loaded NonStop S-series system enclosure, with the appearance-side door open and only one fan operating, can operate before overheating.

Safe Operating Times With Enclosure Door Open

Altitude	Ambient Room Temperature			
	25°C (77°F)	30°C (86°F)	35°C (95°F)	38°C (100°F)
Sea level	>45 minutes	36 minutes	21 minutes	13 minutes
1,524 meters (5,000 feet)	38 minutes	22 minutes	13 minutes	8 minutes
3,048 meters (10,000 feet)	25 minutes	14 minutes	10 minutes	5 minutes

For example, if your computer room has an ambient room temperature of 25°C (77°F) and is at an altitude of 1,524 meters (5,000 feet), you have approximately 38 minutes to replace or reinstall the second fan before components inside a system enclosure overheat.

Related Topic

[ESD Guidelines](#)

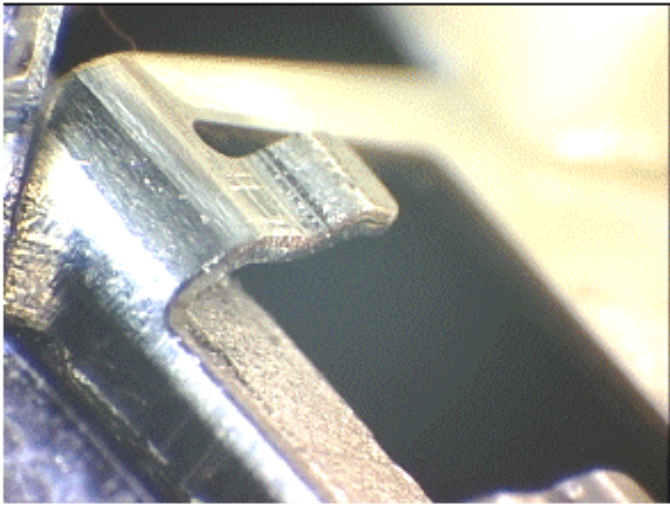
Unplugging a Serial Copper Cable from a PIC



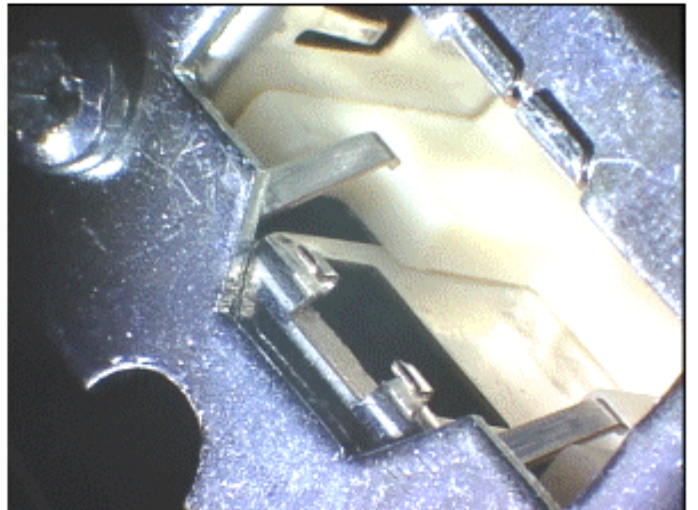
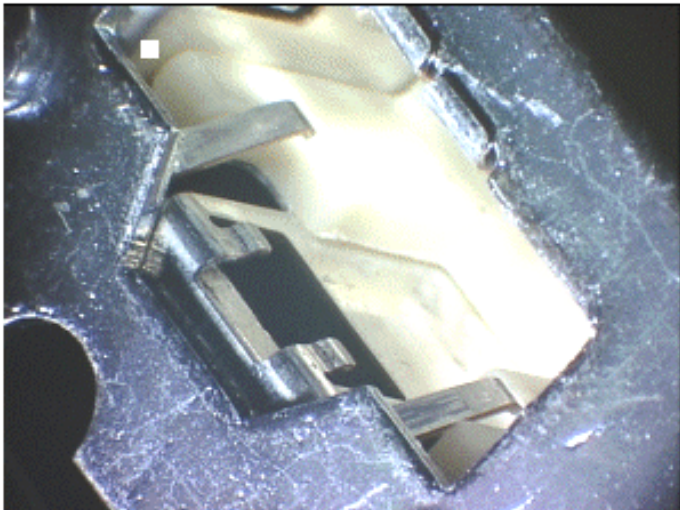
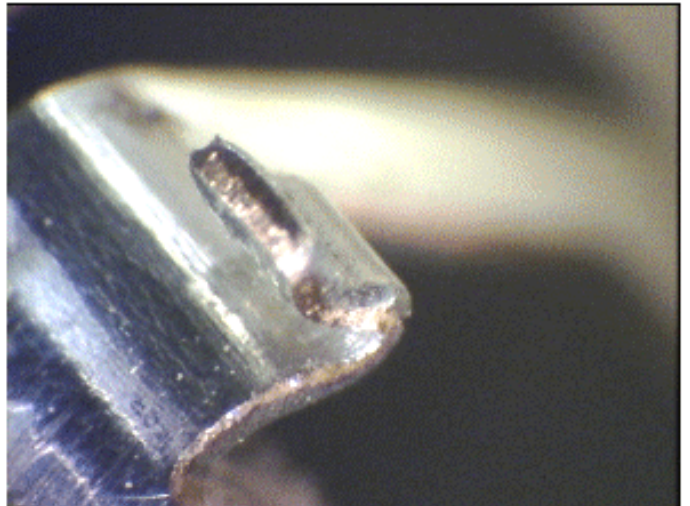
- 1 Completely depress the locking latch (arrow 1 in picture) until it is flush with the connector, and then gently pull the connector (in the direction of arrow 3) to disengage it from the PIC. Do not exceed 10 pounds of pulling force or you might damage the retention tabs on the PIC connector.
- 2 If the cable does not disengage, reseat the cable by pushing it back in. Jiggle the connector, completely depress and hold the latch, angle the connector slightly away from the latch side (5 degrees maximum, as indicated by arrow 2 in the picture), and gently pull on the connector to disengage it. Do not exert more than 10 pounds of pulling force, or you might damage the retention tabs on the PIC connector.
- 3 If the connector still does not disengage, repeat step 2.

Examples of Good and Damaged Retention Tabs

Good Retention Tabs (Nominal)



Damaged Retention Tab (Bent Back)



IOMF 2 ServerNet PIC Mounting Hardware

Note: Slot locations PIC 2 and PIC 3 are currently not used (reserved for future software RVUs.)

